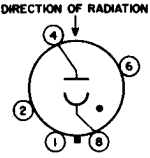
# Gas Phototube

**SIDE-ON TYPE HAVING UNOBSTRUCTED PHOTOCATHODE AREA AND S-1 RESPONSE**

**DATA**

**General:**

| | |
|---|---|
| Spectral Response | S-1 |
| Wavelength of Maximum Response | 8000 ± 1000 angstroms |
| Cathode: | |
| Shape | Semicylindrical |
| Minimum unobstructed projected length[a] | 23/32" |
| Minimum unobstructed projected width[a] | 9/16" |
| Direct Interelectrode Capacitance (Approx.) | 3 μμf |
| Maximum Overall Length | 3-1/16" |
| Maximum Seated Length | 2-1/2" |
| Seated Length to Center of Cathode | 1-5/8" ± 3/32" |
| Maximum Diameter | 1-9/32" |
| Operating Position | Any |
| Weight (Approx.) | 0.9 oz |
| Bulb | T9 |
| Socket | Cinch No.8JM-1, or equivalent ← |
| Base | Intermediate-Shell Octal 5-Pin Arrangement 1, (JEDEC No.B5-10) |
| Basing Designation for BOTTOM VIEW | 3J |




Pin 1 – No Connection
Pin 2 – No Connection
Pin 4 – Anode
Pin 6 – No Connection
Pin 8 – Photocathode

**Maximum Ratings,** *Absolute-Maximum Values:*

| | *Rating 1* | *Rating 11* | |
|---|---|---|---|
| ANODE-SUPPLY VOLTAGE (DC or Peak AC) | 70 max. | 90 max. | volts |
| AVERAGE CATHODE-CURRENT DENSITY[b] | 60 max. | 30 max. | μa/sq. in. |
| AVERAGE CATHODE CURRENT[b] | 6 max. | 3 max. | μa |
| AMBIENT TEMPERATURE | 100 max. | 100 max. | °C |

**Characteristics:** ←

*With an anode-supply voltage of 90 volts unless otherwise specified*

| | *Min.* | *Median* | *Max.* | |
|---|---|---|---|---|
| Sensitivity: Radiant, at 8000 angstroms | – | 0.019 | – | amp/watt |

← Indicates a change.

| | Min. | Median | Max. | |
|---|---|---|---|---|
| Luminous:[c] | | | | |
| At 0 cps. . . . . | 140 | 200 | 330 | μa/lumen |
| At 5000 cps . . . . . | – | 165 | – | μa/lumen |
| At 10000 cps. . . . . | – | 150 | – | μa/lumen |
| Gas Amplification Factor[d] . . . | – | – | .10 | |
| Anode Dark Current at 25° C . . | – | – | 0.1 | μa |

**Minimum Circuit Values:**

| *With an anode-supply voltage of* | *70 or less* | *90* | *volts* |
|---|---|---|---|
| DC Load Resistance: | | | |
| For dc currents above | | | |
| 3 μa. . . . . | 0.1 min. | – | megohm |
| For dc currents below | | | |
| 3 μa. . . . . | 0 min. | – | megohms |
| For dc currents above | | | |
| 2 μa. . . . . | – | 2.5 min. | megohms |
| For dc currents below | | | |
| 2 μa. . . . . | – | 1 min. | megohm |

[a] On plane perpendicular to indicated direction of incident radiation.

[b] Averaged over any interval of 30 seconds maximum.

[c] For conditions where the light source is a tungsten-filament lamp operated at a color temperature of 2870° K. A dc anode supply voltage of 90 volts and a 1-megohm load resistor are used. For the 0-cycle measurement, a light input of 0.1 lumen is used. For the 5000- and 10,000-cycle measurements, the light input is varied sinusoidally about a mean value of 0.015 lumen from zero to a maximum of twice the mean value.

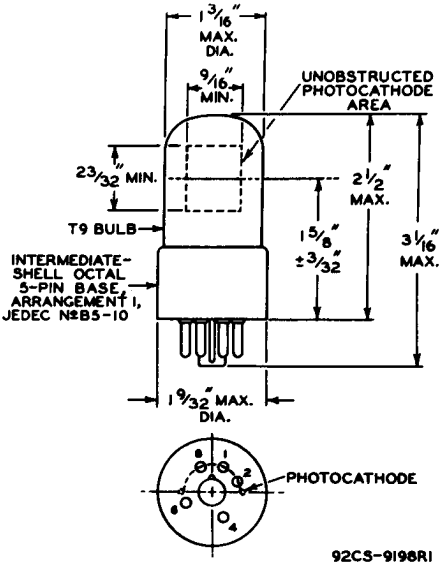
[d] The ratio of luminous sensitivity at an anode supply voltage of 90 volts to luminous sensitivity at an anode supply voltage of 25 volts. In each case, sensitivity is obtained under conditions where the light source is a tungsten-filament lamp operated at a color temperature of 2870° K, the light input is 0.1 lumen, and the load resistor has a value of 1 megohm.

**SPECTRAL-SENSITIVITY CHARACTERISTIC OF PHOTOSENSITIVE DEVICE HAVING S-1 RESPONSE**

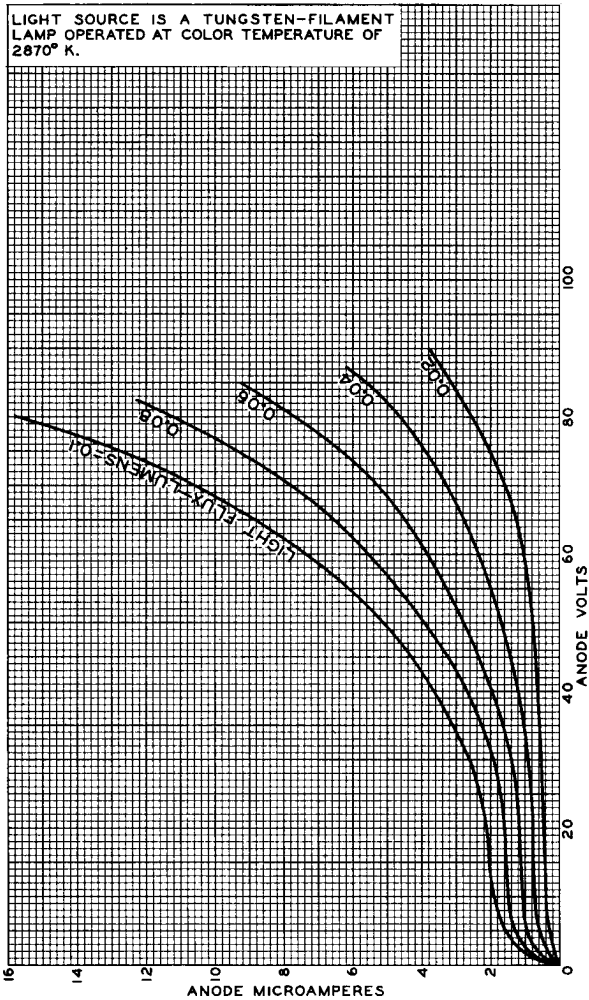
**and**

**FREQUENCY-RESPONSE CHARACTERISTICS OF GAS PHOTOTUBES**

**are shown at the front of this section**


1 3/16" MAX. DIA.
9/16" MIN.
UNOBSTRUCTED PHOTOCATHODE AREA
1/32" MIN.
2 1/2" MAX.
T9 BULB
1 5/8" ±3/32"
3 1/16" MAX.
INTERMEDIATE-SHELL OCTAL 5-PIN BASE, ARRANGEMENT 1, JEDEC N°B5-10
1 9/32" MAX. DIA.
PHOTOCATHODE
92CS-9198R1

## AVERAGE ANODE CHARACTERISTICS




92CM-9226